

V. REMARKS

Claims 1-4 are rejected under 35 U.S.C. 103(a) as unpatentable over Arndt et al. (U.S. Patent No. 5,949,550) in lieu of Leifeld (U.S. Patent No. 5,648,553). The rejection is respectfully traversed.

Arndt teaches a method and apparatus for detecting defects in a moving web. A sensor is provided near an edge of the moving web for sensing gloss on the surface thereof. A signaling device provides a signal for a web defect. The web is sensed with the sensor device for detecting patches of relatively high gloss on the surface of the web. The signaling device is activated to signal a web defect upon detection of a patch of relatively high gloss.

Leifeld is directed to an imaging apparatus for scanning a cloth roll in a fiber processing machine. The Examiner cites this reference to show that such imaging apparatus includes a light source and a camera to illuminate the roll with the light illuminating the roll at a predetermined angle.

Claim 1 is directed to a sheet-material foreign-matter detecting method for detecting whether or not foreign matter different in reflectance from a sheet material having light reflectivity is attached to a surface of the sheet material while moving the sheet material in a predetermined direction. Claim 1 recites the steps of applying light to a predetermined position of a moving route of the sheet material from a position having a predetermined angle from the surface of the sheet material; picking up a light-source image reflected from the surface of the sheet material by image-pickup means; and judging a difference between brightnesses of the light-source reflected image due to a difference between reflectances of the sheet material and the foreign matter. Furthermore, claim 1 recites that a light-source image reflected at a position shifted by a predetermined distance along the surface of the sheet material from a reflection position of the light extending along an optical axis of the light source is picked up.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1. Specifically, it is respectfully submitted

that none of the applied art, alone or in combination, teaches or suggests a light-source image reflected at a position shifted by a predetermined distance along the surface of the sheet material from a reflection position of the light extending along an optical axis of the light source is picked up. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claim 3 is directed to a sheet-material foreign-matter detecting apparatus for detecting whether foreign matter different in reflectance from a sheet material having light reflectivity is attached to the surface of the sheet material while moving the sheet material in a predetermined direction. Claim 3 recites that the sheet-material foreign-matter detecting apparatus includes a light source for applying light to a predetermined position of a moving route of the sheet material from a position having a predetermined angle from the surface of the sheet material, an image pickup means picking up a light-source image reflected from the surface of the sheet material and a judging means for judging a difference between brightnesses of a light-source reflected image due to a difference between reflectances of the sheet material and the foreign matter. Claim 3 recites that a pickup position of a light-source reflected image on the sheet material is shifted by a predetermined distance along the surface of the sheet material from a reflection position of the light extending along the optical axis of the light source.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 3. Specifically, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests a pickup position of a light-source reflected image on the sheet material is shifted by a predetermined distance along the surface of the sheet material from a reflection position of the light extending along the optical axis of the light source. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 3 is allowable over the applied art.

Claims 2 and 4 are canceled and therefore the rejection as applied to these claims is now moot.

Withdrawal of the rejection is respectfully requested.


Also, newly-added claim 7 also includes features not shown in the applied art.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

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